In 9 adult female Chimpanzees, on the other hand, in only one had the temporal ridges united to form a slight crest: the average distance between them is 22 mm. These ridges in the male Gorilla reach the sagittal suture as the canine teeth cut and fuse into a ridge, which continues to grow all through life. In the male Chimpanzee they only occasionally unite to form a ridge. The development of the temporal ridges, the height to which they reach on the roof of the skull, depends on the dentition. The condition in the adult female Chimpanzee corresponds to the stage of development found in a male Gorilla cutting its second molar tooth.

The lower jaw in the female Gorilla, almost without exception, exceeds in every dimension that of the female Chimpanzee.

11. *Summary.*

The Gorilla may be distinguished in life from the Chimpanzee by its sullen, untamable, ferocious nature; its long nasal bones descending far below the level of the infra-orbital margin; its great alar nasal folds running to the margin of the upper lip; its great peculiar molar, premolar, and canine teeth; its broad, short, thick webbed hands and feet; its long heel and the great length of its upper arm with the smaller development of the forearm.

EXPLANATION OF PLATE XX.

Anthropopithecus troglodytes kooloo-kamba. Taken from the specimen named "Johanna," living in the collection of Messrs. Barnum and Bailey.

2. Further Note on Specific Differences in the Anthropoid Apes. By W. L. H. Duckworth, M.A., Fellow of Jesus College, Cambridge.

[Received March 4, 1899.]

1. After reading a note on this subject to this Society in December 1898, I learned that in the Zoological Museum at Jena is an Ape, the determination of whose species has given rise to some discussion: the point in dispute being, whether it should be described as a Gorilla or a Chimpanzee. Through the kindness of Professor Haeckel I have been enabled to examine the specimen and have arrived at the following conclusion—that, although labelled "Junger weiblicher Gorilla,"[1] neither the stuffed skin nor the skeleton afford any evidence to justify the term Gorilla; and the facts that hardly a suture remains unclosed in the skull, that every epiphysis has long been fused with its diaphysis in the limb-bones, and that the teeth are much worn down, indicate that this was an *aged*, and not a *young* female. The average transverse diameter of the crowns of the molar teeth is 9·7 mm. (*cf.* the ape "A" at Cambridge, where the average is 10·4; and an undoubted female Gorilla with 14 mm.); and the mounted skeleton measures

[1] The label runs:—"*Troglodytes gorilla* (Cuv.). Junger weiblicher Gorilla, von einem Urunga Neger, 1885, in der Kolonie Gaboon erlegt."

only 1010 mm. in height (less than 3 ft. 4 in.). On renewed careful examination of the skeleton and of the skin, including observations on hair-colour, ear-dimensions, characters of the extremities and face, I could find no reason for regarding it as other than an old female Chimpanzee, but one considerably smaller than our Cambridge specimen "A" (also an aged female).

2. The foregoing instance is one in which a Chimpanzee is incorrectly described as a Gorilla. The converse, whereby a Gorilla is described as a Chimpanzee, may be noticed in the paper by Professors Kükenthal and Ziehen of Jena (in the 'Jenaische Zeitschrift für Naturwissenschaft,' Band xxix. 1894), entitled: "Untersuchungen über die Grosshirnfurchen der Primaten." On mentioning *Gorilla engena*, the authors state that they themselves had no opportunity of making observations on cerebral hemispheres of this species. They draw up, however, from the works of others, a list of twenty characteristic features of the fissures of the cerebral hemispheres in this species. They proceed to *Troglodytes niger*, of which they describe six hemispheres, with which they combine descriptions of two hemispheres of *Troglodytes savagii*! The latter specimens are in the Museum of the Royal College of Surgeons, and are the cerebral hemispheres of a Gorilla that died in this Society's Gardens in 1887. More interesting than the omission of the authors to recognize the identity of *Gorilla engena* with *Troglodytes savagii* is the fact that out of the ten particulars in which the hemispheres of *T. savagii* are stated to differ from those of *T. niger*, in three only does such divergence from *T. niger* imply agreement with features previously described by the authors as characteristic of *Gorilla engena*, while in three cases there is divergence from these characteristic features of *Gorilla engena*, and in the remaining four instances no comparisons can be made. But further, from the examination of these hemispheres of *T. niger* and *savagii*, the authors proceed to draw up a list of characters specially typical of the hemisphere of the Chimpanzee, and seventeen of these affect features that appeared in the list for *Gorilla engena*. Of these seventeen characters, thirteen actually present similarities in conformation between the hemispheres of *Gorilla engena* and of the Chimpanzee (i. e. *T. niger* and *T. savagii* of Profs. Kükenthal and Ziehen), while only four indicate differences of conformation. If we may accept the data, no better proof could be adduced of the practical identity of Gorilla and Chimpanzee in respect of cerebral convolutions.

3. The study of cerebral hemispheres of Gorilla and Chimpanzee respectively (in my possession) shows in strong relief the diversity of conformation that may be met with in the brains of the former. Consequently the value to be attached to the arrangement of the cerebral convolutions as a criterion of species is insignificant, and herein the conclusion arrived at in the preceding paragraph is corroborated. I should prefer, however, to postpone the further consideration of this part of the subject until I have been able to consult the communication so lately made to the Zoological Society on the brain of the Gorilla.

[P.S.—Two points respecting the geographical distribution of the Gorilla appear to me to call for notice here. Last year (1898) the occurrence of a Gorilla near Brazzaville on the Congo was recorded, and, in fact, the specimen was brought to England. Secondly, in the same year was published Captain Burrows's book, entitled 'The Land of the Pigmies,' which contains a photograph of an Ape described as a Gorilla, which was shot at Stanley Falls. If we regard this Ape as a genuine Gorilla, it follows that the eastward range of that animal is much more extensive than it is commonly supposed to be; but unfortunately the evidence of the photograph alone does not support that specific title, showing as it does that the specimen was possessed of distinct Chimpanzee features. Without further investigation, therefore, no final conclusion on this point can be arrived at.]

3. On the Myology of the Edentata. By Bertram C. A. Windle, D.Sc., M.D., M.A., F.R.S., Professor of Anatomy in Mason University College, Birmingham, and F. G. Parsons, F.R.C.S., F.Z.S., F.L.S., Lecturer on Comparative Anatomy at St. Thomas's Hospital and Hunterian Professor in the Royal College of Surgeons, England.

[Received February 9, 1899.]

Part I.—Muscles of the Head, Neck, and Fore Limb.

It has been for some time our intention to gather together the very scattered literature on the subject of Edentate myology, and to check it by a series of dissections of such animals as we could collect. We are greatly indebted to this Society, to Professor Stewart of the Royal College of Surgeons, and to Professor Howes of the Royal College of Science for giving us opportunities of dissecting specimens in their stores. We submit that the comparatively large number of records which we have been able to bring together as the result of our own dissections and a study of the literature has given us an opportunity of indicating which muscles are constant and which are liable to variation. For this reason we are glad to be able to point out that we have several records of most of the existing genera of Edentates. There are many points on which further information is desirable, and we feel that the paper is far from complete; still, as the investigation has been lengthy and arduous, it has seemed best to publish this first part and to defer, as in the case of the Carnivora, the generalizations which we intend to offer, until the remainder of the muscles are dealt with, in a second part of this paper. As in former papers, small numerals refer to the list of animals at the commencement of the paper and Roman figures to the bibliography at its end. Those animals in the list against which no author's name is placed have been dissected by ourselves.